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Summary of the Kodiak Archipelago Bear Conservation and Management Plan

Stable or increasing Kodiak bear populations provide opportunities for multiple recreational experiences throughout the Kodiak archipelago, including on the Kodiak National Wildlife Refuge (KNWR). Through existing and creative management practices, these activities can be compatible and nonexclusive. However, opportunities for using Kodiak bears are *not* unlimited, and the cumulative effects of too many people using the resource can reduce those opportunities for all.

Although Kodiak bears are recognized as a valuable resource to the community, they are also sometimes viewed as competitors and predators by cattlemen and commercial fishermen; as nuisances to anglers and deer hunters; and as potential threats to human life. The history of how people and bears have lived together on the Kodiak archipelago is a reflection of local, national, and international influences and attitudes. This history also highlights the fact that, with understanding and tolerance, people can coexist with a healthy population of the world's largest bears.

The best available scientific information indicates that, although the Kodiak bear population is being sustained at a healthy level, human pressures on the bears and their habitat have increased in the last 100 years throughout the Kodiak archipelago. Road construction, clearcut logging, cattle ranching, and commercial, residential, recreational, and industrial developments are altering bear habitat. Meanwhile, increasing human activity in bear country is leading to escalating bear-human interactions through hunting, fishing, viewing, and other forms of wildland recreation. Such interactions may result in the displacement of bears or, in the worst case, in defense of life or property (DLP) bear mortalities.

The purchase of lands and conservation easements from private and public entities within KNWR and in other strategic locations across the Kodiak archipelago was a dominant habitat-protection activity during the 1990s. Funding for these efforts was derived from civil and criminal settlements associated with the *Exxon Valdez* oil spill, from the Land and Water Conservation Fund, and from private organizations, principally the Kodiak Brown Bear Trust and The Conservation Fund.

By 2000, nearly 290,000 acres of valuable wildlife habitat on the refuge and more than 100,000 acres of habitat for the Alaska State Park System on Shuyak and Afognak islands had been purchased. These purchases from willing sellers provided additional management of key habitats, provided public access, and reduced the potential of habitat infringement through developments in remote areas. Opportunities for habitat acquisition remain and should be pursued.

Private and public resource managers have taken a number of positive measures to address concerns about Kodiak bears and their habitat. In 2000, the Alaska Department of Fish and Game (ADF&G), in response to the public's interest in Kodiak bears, spearheaded a public process to develop a bear-management plan for the Kodiak archipelago.

Such a plan was needed because of increased demand for diverse recreational opportunities and the need to minimize negative bear-human interactions. Those who live, work, and recreate in proximity to these bears needed to come together and produce a management plan reflecting current research in bear biology, habitat, and behavior while recognizing both traditional and contemporary uses of the resource. The purpose of the plan is to recommend measures to help ensure the sustainability of the Kodiak bear population, to respond to the public's desire for uses of this wildlife resource, and to address public safety concerns.

Although the population of bears on the Kodiak archipelago is presently healthy and its habitat generally well protected, no management plan had been formalized in the past. Because management of the bears and their habitat is a shared responsibility of ADF&G and the U.S. Fish & Wildlife Service (USFWS), which manages KNWR, it was essential that these two agencies pool their resources to work with the public in developing such a document.

Other government agencies—local, state, and federal—also needed to be involved in and committed to the plan's development if it was to be implemented. The public's involvement with, in fact its ownership of, the plan was considered crucial to the planning process. The final management plan needed to reflect the public's desires and concerns for continued use of and coexistence with bears if it was to have credibility and validity. Thus, a combination of public involvement and government commitment were the keys to the success of developing a bear-management plan for the Kodiak archipelago. (The public process designed for development of the plan is detailed in chapter 1, "Introduction.")

Recognizing responsibility for quality resource management justifies development and prompt implementation of a Kodiak bear-management plan. The healthy status of the Kodiak bear population is quite phenomenal when compared to most brown or grizzly bears elsewhere in the world. Many have been driven to extinction (California and Great Plains grizzlies), are listed as threatened (Rocky Mountain West), seriously depleted (parts of Russian Far East), or are of growing scientific concern to the extent that hunting seasons have been closed (British Columbia). Only in the remoter parts of Alaska, northern Canada, and Russia do healthy populations remain. Kodiak bears have among the highest population densities. Achieving this plan's proactive goals will ensure the health of the Kodiak bear population into perpetuity.

To provide background information so that the Citizens Advisory Committee (CAC) could make recommendations for the conservation and management of Kodiak archipelago bears, the chapters of this plan, each of which covers a different subject area, include introductory text information to provide bases for the recommendations that follow the issues (and that are also collected and placed in chapter 9, "Recommendations"). To set the stage, chapter 2 deals with the biology, history, and management of Kodiak bears prior to January 2001, when this plan began to be developed.

Kodiak bears live throughout most of the Kodiak archipelago and use virtually all available habitats from the coast to alpine regions. The archipelago is considered high-quality bear habitat, containing ample food, water, cover, and space. While vegetation is a prominent part of the bears' diet, salmon is the most important source of protein for most Kodiak bears. Currently, the human population and related human development have had minimal impacts on bear habitat.

Potential threats include seasonal human use of inland and coastal areas, future developments (e.g., road and energy development) and related problems (e.g., oil spills) and natural occurrences (e.g., reduction in salmon stocks). Kodiak bears are adaptable.

Bear habitat and bear-human relationship are intimately intertwined; if people are not willing to make an effort to live around bears, large expanses of wilderness areas where people rarely go are necessary for sustainable bear populations. With this information in mind, the CAC makes a number of recommendations to protect bear habitat on the archipelago. These recommendations cover the following subject areas: land use, acquisition, and planning; activities on Afognak Island; minimizing habitat degradation; road building in bear habitat; motorized access; bear-use areas; human activities in bear habitat; introduced species; and salmon as a part of bear habitat.

Residents and visitors harvest a variety of fish, wildlife, and plant resources on the Kodiak archipelago, and all of these harvest activities are interrelated with bears. Management of the harvest of Kodiak bears is currently based primarily on population assessments and regulation of sport hunting. With a healthy population of bears on the archipelago, the emphasis has been on maintaining a stable bear population that will sustain an annual harvest of 150 bears, composed of at least 60 percent males. Subsistence harvest of bears is presently managed by the U.S. Fish & Wildlife Service. Subsistence hunting permits are allocated each year with one in Akhiok, one in Karluk, three in Larsen Bay, two in Old Harbor, two in Ouzinkie, and two in Port Lions. Sport hunting of bears in Game Management Unit 8 (Kodiak archipelago) is regulated by a complex system involving drawing hunts and registration hunts. Nonresident bear hunters are required to use a guide; big-game hunting services provide significant economic resources to the people living on the archipelago. Other resource extraction, including deer hunting, elk hunting, commercial fishing, sport fishing, and harvest of berries and other plants, also directly impacts bear populations. The CAC makes recommendations on a number of harvest issues, including the following: management of bear-harvest activities, subsistence use of bears, sport hunting, guiding, other resource-extraction activities, and regulations and their enforcement.

Management objectives for bears on the Kodiak archipelago currently are based on harvest figures. ADF&G biologists, however, make management decisions and harvest recommendations based on both biological carrying capacity and wildlife-acceptance capacity¹. At present, the total bear population on the Kodiak archipelago is stable and can be sustained at this high level by the natural habitat. Habitat in different areas is capable of sustaining different bear densities. Although the entire Kodiak archipelago is high-quality bear habitat, there are areas where human development and residence take precedence. Thus, biological carrying capacity and wildlife-acceptance capacity may be different. With this awareness, the CAC recommends a shift to managing the bear population by density rather than by harvest alone. To do this, biologists need accurate data on bear populations and habitat carrying capacities. The CAC also recommends reducing, through liberalized sport hunting seasons in the spring and issuance of appropriate depredation permits, the bear population along the road system of northeastern Kodiak Island by 10-20 percent below the current estimated level.

¹ reflects the maximum wildlife population level in an area that is acceptable to people (Decker and Purdy 1988)

There are a variety of situations in which bears and humans interact: killing of bears in defense of life or property; solid-waste management and storage of human and pet food; livestock ranching; bear-viewing activities; public-use and remote cabins in bear habitat; other recreational activities in bear habitat, etc. The CAC thoroughly discussed the issues involving bear-human interactions and made recommendations that can have a significant impact on the future management of Kodiak bears.

Kodiak bears have been the subjects of formal research for the past 60 years. Initial research centered on bear-cattle and bear-salmon conflicts. By the 1960s, research activities evolved into a more holistic approach, looking into feeding habits, reproductive potential, growth rates, movements, and population estimations. In the 1980s and 1990s, research expanded to include most of the representative habitats on Kodiak Island. Routine monitoring, based on research results and harvest reports, allows biologists to track and manage human impacts on bears. New research will fill information gaps and will be needed to address increasing and changing demands for the Kodiak bear resource. The CAC recommends that ADF&G and Kodiak National Wildlife Refuge provide funding and staffing adequate to continue conducting research and monitoring of the Kodiak bear population and its habitat. The first priority should be continued monitoring of the harvest and population trends in established survey areas. The CAC recommends that a variety of monitoring and research activities be continued or initiated.

The CAC believes that the widespread dissemination of accurate, fact-based information concerning Kodiak bears is essential for conserving bears and their habitat on the Kodiak archipelago. The primary objectives of current Kodiak bear-education efforts are to reduce negative bear-human interactions and to increase appreciation for and understanding of bears and their habitat. The CAC examined a number of ways to enhance the current educational effort by establishing educational programs that provide accurate information resulting in continued conservation and management of Kodiak bears. The key to any educational effort is cooperation and commitment by all concerned to provide science-based, accurate information in order to cultivate a well-informed public. Those who live, work, and recreate on the Kodiak archipelago need clear and useful information about bears in order to build understanding of bear behavior and to minimize negative bear-human interactions. In addition, with understanding and preparation, people can avoid bear encounters and respond wisely when they do occur. The CAC makes recommendations on the development and dissemination of educational and public outreach materials. These recommendations regard the following subjects: general user education, hunter education, off-road vehicle user education, angler education, U.S. Coast Guard education, economic incentives and land management, village and rural residents, and funding for education efforts.

All the recommendations made by the CAC on all subjects are compiled in chapter 9, "Recommendations," with cross-references to the specific chapter (and, thus, subject matter and background information) from which they evolved.

A series of appendices affords the reader with definitions of abbreviations, acronyms, and terms used in this document as well as more specific information regarding certain subjects.

Public Review and Comment on this Plan

A public-review draft of the *Kodiak Archipelago Bear Conservation and Management Plan* was distributed to the public, presented at a series of public meetings from mid-May through the end of October 2001, and posted on the project's Web site² to allow the public to review the plan and to provide comments that were incorporated by the CAC in December 2001 and that are reflected in this final plan. After this final version of the plan is published, strategies for implementing the recommendations herein will be developed (see chapter 1, "Introduction," for more information about the process about implementing the recommendations). Final implementation is contingent on the standard policy processes of each agency or governing body.

² <http://www.state.ak.us/adfg/wildlife/geninfo/planning/kodiakbb.htm>